

Stereo Cassette Deck

Operating Instructions

TC-K511S/K411



WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

NOTICE FOR CUSTOMERS IN THE UNITED KINGDOM

A moulded plug complying with BS 1363 is fitted to this equipment for your safety and convenience.

Should the fuse in the plug supplied need to be replaced, a 5 AMP fuse approved by ASTA or BSI to BS 1362, (i.e. marked with  or  mark) must be used.

If the plug supplied with this equipment has a detachable fuse cover, be sure to attach the fuse cover after you change the fuse. Never use the plug without the fuse cover. If you should lose the fuse cover, please contact your nearest Sony service station.

IMPORTANT

If the plug supplied is not suitable for the socket outlets in your home, it should be cut off and an appropriate plug fitted in accordance with the following instructions.


The wires in this mains lead are coloured in accordance with the following code:

- Blue: Neutral
- Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal in the plug which is marked by the letter E or by the safety earth symbol  or coloured green or green and yellow.

WARNING

To prevent shock hazard, do not insert the plug cut off from the mains lead into a socket outlet. This plug cannot be used and should be destroyed.

Table of Contents

Chapter 1 Getting Started

Features	3
Precautions	3
Unpacking	4
Notes on installation	4
Checking the supplied accessories	4
Checking the operating voltage	4
Hooking up the system	5
Before you begin	5
Hook-up example	5
Identifying the parts	6
Front panel	6

Chapter 2 Playback

Playing back	7
Locating a selection — Multi-AMS (Automatic Music Sensor)	9
Locating a desired playback position — Memory Play	10
How to memorize and locate a desired playback position	10
The accuracy of the linear counter	10
Starting playing back after rewinding — Auto Play	11

Chapter 3 Recording

Recording	12
How to record to a cassette	12
To protect a recording	14
Adjusting the recording level	15
Recording FM broadcasts with the Dolby NR system	15
Monitoring the recorded sound	16
What is the Dolby HX PRO system?	17
Making an optimum recording	18
Bias and recording level calibration	18
How to calibrate the bias current and recording level	19
Inserting a blank space during recording — Record Muting	20

Chapter 4 Additional Information

Maintenance	21
Cleaning the heads and tape path	21
Demagnetizing the heads	21
Cleaning the cabinet	21
Specifications	22
Troubleshooting guide	23

Features


For higher quality recording/playback

- **The Dolby HX PRO* system** which improves the linearity of the tape's high-range response during recording.
- **B, C and S (TC-K511S only) type Dolby NR* systems** which reduce tape noise.
- **Bias and recording level calibration** which ensures optimum recording conditions to bring out the best in every tape.
- **Three-head system (separate recording, playback and erase heads)** which allows you to instantly check the recorded sound while recording is in progress.

For your convenience

- **The Multi-AMS and Memory Play functions** which provide easy access to a desired selection.

For easier operation

- **Easy-to-read linear counter** which shows the elapsed recording or playing time.
- * Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen. "DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

Difference between the models

Dolby S NR is provided on the TC-K511S but not the TC-K411. With this exception, the features and functions of both models are identical.

Note

All illustrations in this manual show the TC-K511S.

Precautions

On safety

- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it will not be used for a long time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.

On operation

- When the unit is not used, turn the power off to conserve energy and to extend the useful life of your unit.
- Because of a safety mechanism, the function buttons will not operate if the cassette holder is not completely closed, if there is no cassette in the cassette holder, or if a cassette has been incorrectly inserted into the cassette holder.

On head cleaning

The head and tape path should be cleaned after every ten hours of operation. Dirty heads and a dirty tape path may cause:

- loss of high-frequency response
- loss of sound volume
- sound drop-out

If you have any questions or problems concerning your unit, please contact your nearest Sony dealer.

Unpacking

Notes on Installation

- Place the unit with the front panel facing you in a location with adequate air circulation to prevent overheating of the unit.
- Do not place the unit:
 - near heat sources such as radiators or air ducts.
 - in places subject to direct sunlight, excessive dust, mechanical vibration or shock.
 - in an inclined position.
 - on a rug or other soft surfaces that would block the ventilation holes on the bottom of the unit.

Do not throw away the carton and the packing material

They will come in handy when transporting the unit or shipping it for servicing.

Checking the Supplied Accessories

Make sure that the following supplied accessories are included with your unit.

- Audio connecting cords (2)

Checking the Operating Voltage

- Operate the unit only on 240 V AC, 50 Hz.
- Before operating the unit, be sure that the operating voltage of your unit is identical with that of your local power supply.


Hooking Up the System

Before You Begin

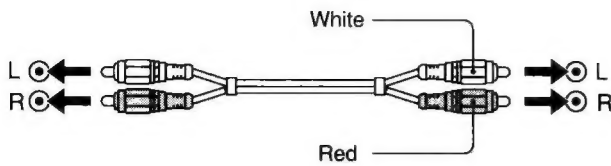
- Turn off the power to all equipment to be connected before making any connection.
- Note that the red plug of the supplied connecting cord is for right-channel (R) connection and the white plug for left-channel (L) connection. See Fig. **A**.
- The connecting cords should be fully inserted into the jacks. A loose connection may cause hum pickup.

Hook-up Example

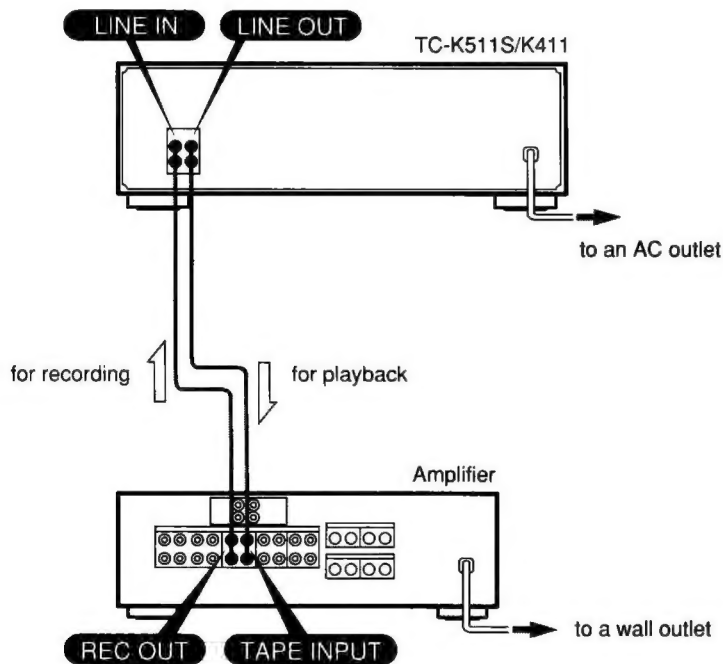
Fig. **B** shows how to connect the unit to an amplifier.

The arrow  shows the direction of the signal flow.

A



B

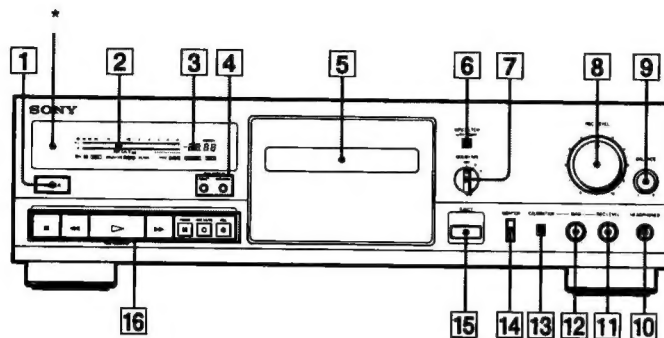


Identifying the Parts

Front Panel

For details, refer to the page number(s) indicated in parentheses.



The illustration shows the TC-K511S.



- 1 POWER switch
- 2 Peak level meter (15)
- 3 Linear counter (10)
- 4 COUNTER buttons
RESET button (10)
MEMORY button (10, 11)
- 5 Cassette holder
- 6 MPX FILTER button (15)
- 7 DOLBY NR (noise reduction) switch (7, 12)
- 8 REC (recording) LEVEL control (12, 15)
- 9 BALANCE control (12)
- 10 HEADPHONES jack (stereo phone jack) (8)
- 11 REC (recording) LEVEL control for calibration (18, 19)
- 12 BIAS control (18, 19)
- 13 CALIBRATION button (18, 19)
- 14 MONITOR button (16)
- 15 ▲ (eject) button
- 16 Tape operation buttons
 - (stop) button
 - ◀ (rewind) button
 - ▶ (play) button
 - ▶▶ (fast-forward) button
 - || PAUSE button
 - REC MUTE (record muting) button (20)
 - REC (recording) button

* Remote control sensor

You can remotely control this cassette deck with:

- A remote commander that came with a Sony amplifier or receiver if it has the  mark and cassette deck control capability.
- An optional Sony remote commander with the  mark and cassette deck control capability.

Playing Back

Follow the procedure below to play back a cassette.

- 1** Turn on the amplifier and select the tape function.
- 2** Insert the cassette with the side to be played facing outward.
- 3** Set DOLBY NR to the same position that was used when the cassette was recorded.
- 4** Press PLAY to start playback.

To stop playback, press the ■ button.
To stop playback momentarily, press the || button.

To restart playback, press the || or ► button.

To fastwind a tape rightward, press the ►► button in stop mode.

To fastwind the tape leftward, press the ◄◄ button in stop mode.

Is it necessary to set the tape type being used?

No. The deck has an automatic tape type detection system.

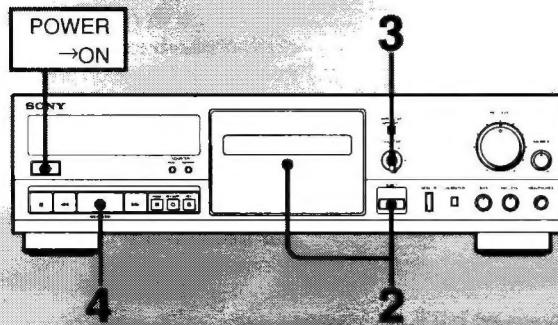
What is the Dolby NR system?

The Dolby NR (noise reduction) system reduces tape hiss noise in low-level, high-frequency signals by boosting the signals during recording and lowering them during playback.

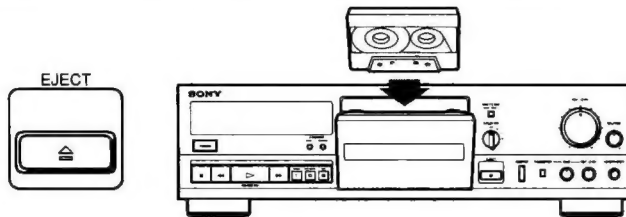
The Dolby S NR (TC-K511S only) system provides the highest reduction in tape hiss noise in both low and high frequencies.

Note

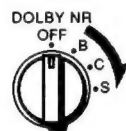
The Dolby HX PRO system is effective only during recording, not during playback.



2



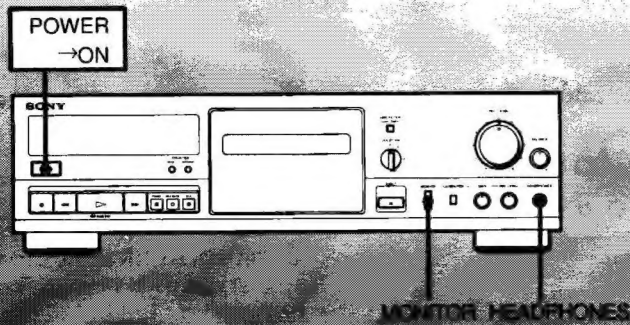
3



4



Playing Back



To change to recording mode during playback

Keeping the ► button pressed, press the ● button. The unit immediately switches from playback to recording without stopping the tape. This is useful when editing previously recorded material.

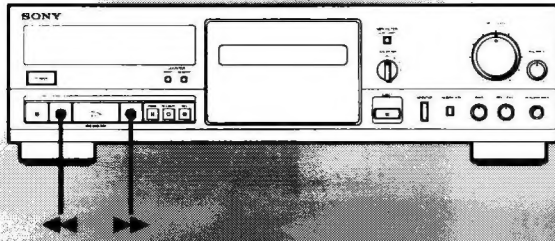
For headphone listening

Connect the headphone plug to the HEADPHONES jack.

Is it necessary to set the MONITOR button for playback?

No. The TAPE mode is automatically selected and TAPE is displayed.

Locating a Selection — Multi-AMS (Automatic Music Sensor)



By detecting the blank space between selections, the Multi-AMS function allows you to skip up to 30 selections during fast forwarding or reversing to locate the beginning of a selection.

During playback, press ▶▶ or ◀◀ as many times as the number of selections to be skipped.

For selections after the current one:
press ▶▶ the required number of times.

For selections before the current one:
press ◀◀ the required number of times*.

* Pressing ◀◀ once locates the beginning of the current selection.

(Fig. A)

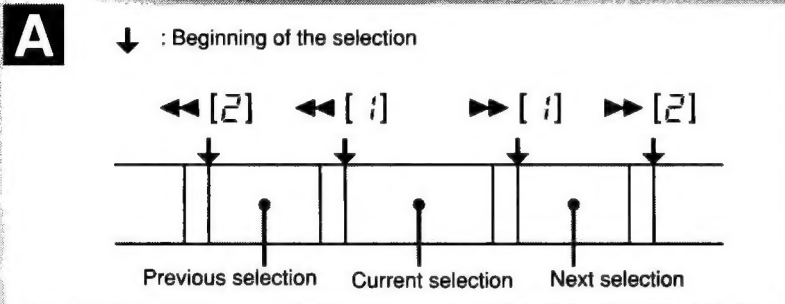
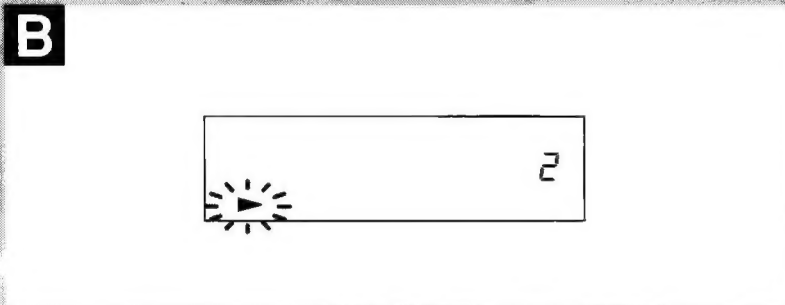


Fig. B :

- The number of selections to be skipped, which replaces the counter indication, decreases by one each time a blank space is detected.
- The PLAY indicator flashes during Multi-AMS operation.
- When the beginning of the desired selection is reached, the counter indication returns and playback automatically restarts.



Modifying the indicated number of selections to be skipped

The number of selections to be skipped may be modified by pressing the ◀◀ or ▶▶ button at any time, even during Multi-AMS operation.

Regarding changes in the indicated number

The indicated number of selections to be skipped may change even as it is being set due to the detection of blank spaces during fastwinding of the unit.

The Multi-AMS may skip a selection in the following cases:

- If the ▶▶ (or ◀◀) button is pressed immediately before the following selection.
- If there is noise in the space between selections.
- If the space is less than four seconds long.

The Multi-AMS will treat the following as blanks:

- a long pause in the music
- a passage of low frequencies or very low volume
- a gradual increase or decrease in volume

Locating a Desired Playback Position — Memory Play

The Memory Play function allows you to use the counter to record a desired position on a cassette for fast relocation and automatic playback later.

How to Memorize and Locate a Desired Playback Position

- 1** Press **MEMORY** to activate the Memory Play function.
- 2** Press **RESET** to reset the counter at the desired position.
- 3** While pressing **▶**, press **◀◀** to return to the desired position.

The desired position is memorized.

Returning to the memorized position in stop mode — Memory Stop

If you press only the **◀◀** button when the **MEMORY** indicator is on in the stop mode, the tape rewinds and the unit stops when the counter reaches 0.00.

Be sure to first stop playback before activating the Memory Stop function, otherwise the AMS function will activate.

To deactivate the Memory Play function

Press the **MEMORY** button, turning off the **MEMORY** indicator.

Note on Memory Play/Stop

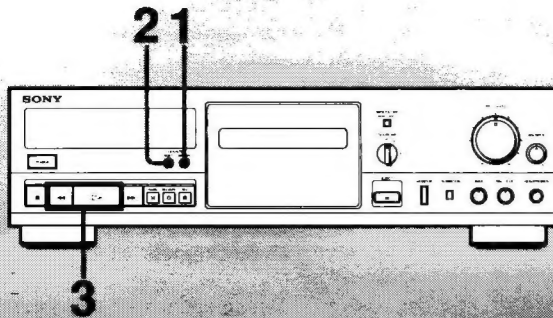
In actuality, the tape is rewound to slightly short of 0.00.

Do not turn off the power while using the counter

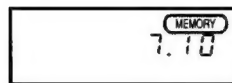
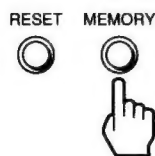
Turning the power off, then on again resets the counter to 0.00.

The Accuracy of the Linear Counter

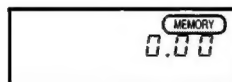
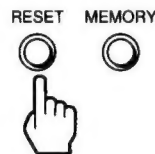
Since the counter is not a digital clock, the number will differ from the actual elapsed playback or recording time by a few minutes, depending on such factors as tape length and hub size.



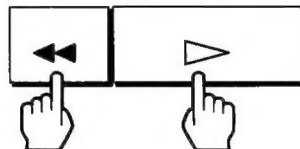
1



2



3



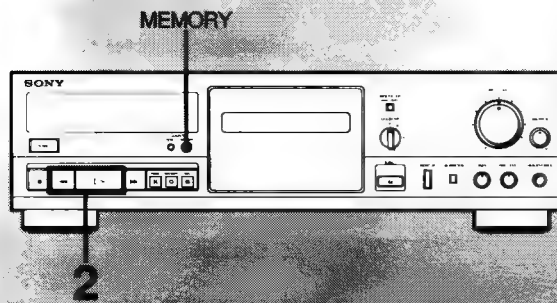
Starting Playing Back After Rewinding — Auto Play

The Auto Play function automatically starts playing back a cassette after fast winding it to the beginning.

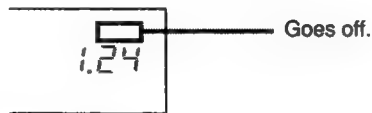
1 Make sure the **MEMORY** indicator is off.

If it is not, press **MEMORY**.

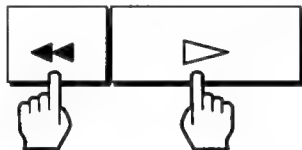
2 While pressing **▶**, press **◀◀**.



1




2





Recording

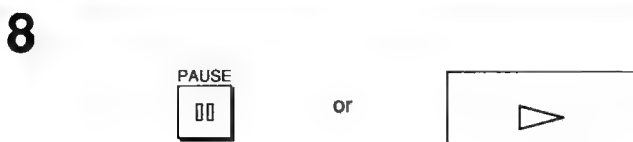
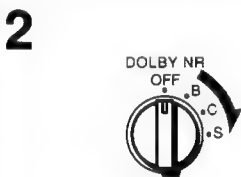
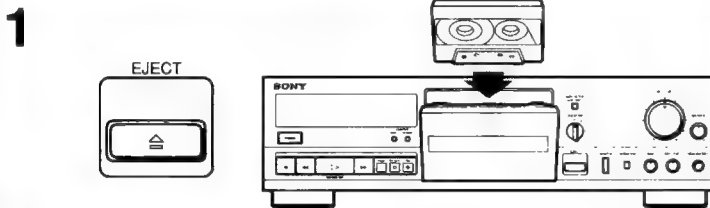
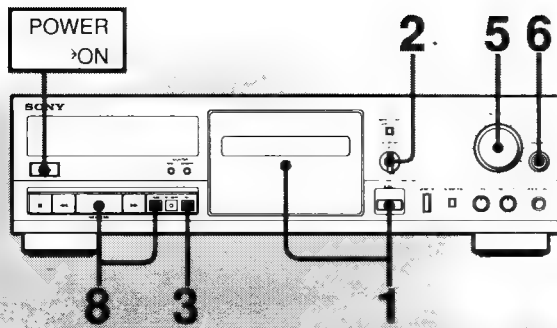
How to Record to a Cassette

Follow the procedure below to record a source on a cassette.

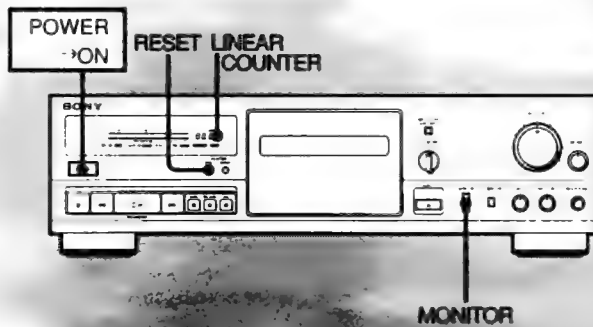
- 1** Insert a cassette with the side to be recorded facing outward.
- 2** Set Dolby NR.
- 3** Press  to enter the recording pause mode.
- 4** Play the program source to be recorded.
- 5** Turn REC LEVEL to adjust the recording.

See "Adjusting the Recording Level" on page 15.
- 6** Turn BALANCE to adjust the balance.
- 7** Restart the program source, if required.
- 8** Press  or  to start recording.

To stop recording
Press the  button.



Recording



If playback starts instead of recording

The cassette tab for that side has been removed. To record on this cassette, cover the hole with plastic tape. (See page 14.)

Is it necessary to set the MONITOR button for recording?

No. The source mode is automatically selected and SOURCE is displayed. If you wish to monitor the recorded sound, press the MONITOR button to select the TAPE mode.

Checking the recording time on a tape

To check the remaining recording time on a tape:

- 1 Press the RESET button to reset the counter to 0.00.
- 2 Press the ►► button to advance the tape to its end. The number on the counter shows the approximate recording time.

To check the total recording time of a tape, first rewind the tape to its beginning, then follow the same steps as above. (See "The Accuracy of the Linear Counter" on page 10.)

Recording

To Protect a Recording

Cassette care

- Avoid touching the tape surface of a cassette to prevent contamination of the heads by dirt, dust, or oil on the skin.
- Keep cassettes away from equipment with magnets, such as speakers and amplifiers, as erasure or distortion on the recorded tape could occur.
- Do not expose cassettes to direct sunlight, extremely cold temperatures or moisture.

To protect a recording on side A or B
Break out the respective tab. (See Fig. **A**.)

To recover a cassette for recording
Cover the respective slot with tape. (See Fig. **B**.)

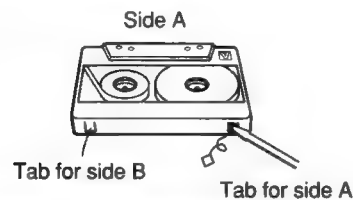
When using Type II (CrO₂) or Type IV (metal) cassettes

Be careful not to cover the detector slots which are necessary for automatic tape detection. (See Fig. **C**.)

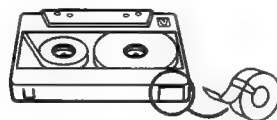
Note on cassettes longer than 90 minutes

The use of cassettes longer than 90 minutes is not recommended except for long continuous playback.

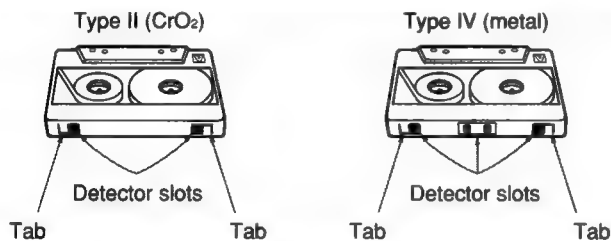
A



B



C



Recording

Adjusting the Recording Level

The optimum recording level, which differs according to the tape type, is indicated on the peak level meter for each tape type. Adjust the REC LEVEL control as high as possible without exceeding the recommended range for the tape type being used.

Peak level meter recording by tape type

Fig. A shows the recommended maximum peak level meter readings.

Tips on recording level adjustment

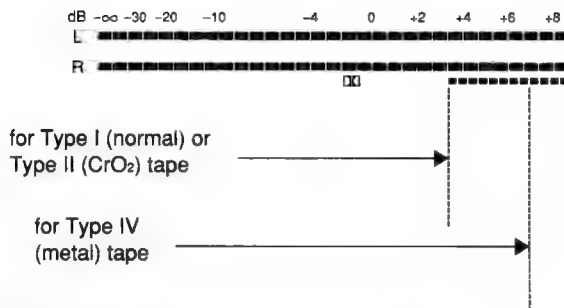
Setting the recording level too low will produce a hissing sound, while setting it too high will produce distortion. Generally, the optimum recording level for high and low frequencies is lower than that for middle frequencies. Therefore, when recording program sources with many high and low frequencies, you should set the level to a relatively low position. For even better results, check the recording results with your own ears.

Recording FM Broadcasts With the Dolby NR System

When recording FM broadcasts with the Dolby NR system, set the MPX FILTER button to ON (the FILTER indicator appears).

The MPX filter eliminates remnants of the 19-kHz stereo carrier and 38-kHz subcarrier signals which may impair the operation of the DOLBY NR system. Be sure that the Dolby NR switch is turned on since the MPX filter will not function otherwise. During recording with the Dolby NR system, use this switch only if the tuner is not equipped with its own MPX filter or the equipped filter does not function effectively.

A



Recording

Monitoring the Recorded Sound

As this unit has three separate heads for recording, playback and erasure, you can check the quality of a recorded sound by comparing it with the input source signal.

To listen to the input source signal, press the MONITOR button to turn on the SOURCE indicator. (Fig. A)

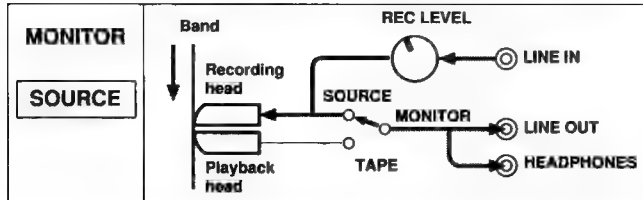
To listen to the sound recorded on the tape, press the MONITOR button to turn on the TAPE indicator. (Fig. B)

Fig. A and B show the MONITOR switch setting and their respective signal flow.

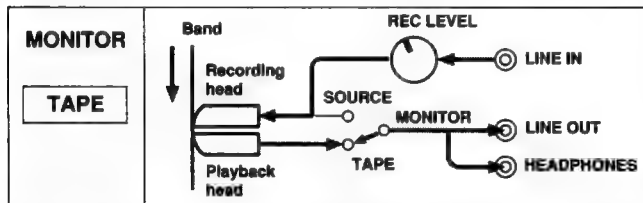
Comparing the recorded sound with the sound source

While recording, use this monitoring function to check that there is no distortion due to excessive level settings or sound degradation due to head contamination.

A



B



Recording

What Is the Dolby HX PRO System?

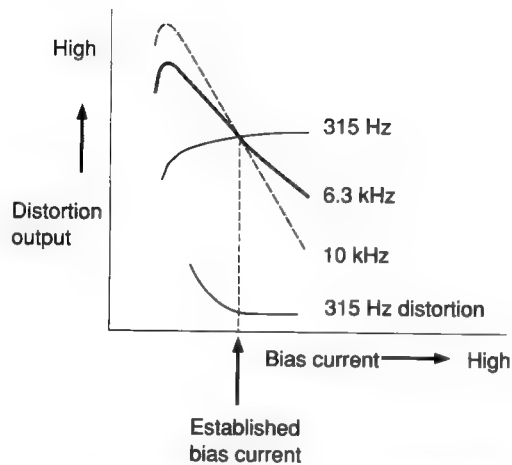
The Dolby HX PRO system provides improved linearity in high-range frequency response during recording. Tapes recorded with this system retain the same high quality even when played back on other tape decks.

As shown in Fig. A, characteristics such as output level and distortion differ widely according to the bias (high-frequency) current.

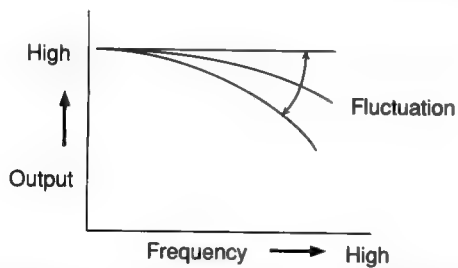
In conventional systems (see Fig. B), the bias current is susceptible to variations in certain recording signals which may cause fluctuations in frequency response, distortion, or other unwanted characteristics.

With the Dolby HX PRO system, the effective bias amount added to the bias current is controlled in millisecond units to greatly reduce distortion, improving linearity in high-range response and ensuring high-intensity recording with minimal distortion and noise.

A



B



Making an Optimum Recording

Bias and Recording Level Calibration

There are many different types of cassettes on the market, each with varying magnetic properties. Although your unit is equipped with the ATS (Automatic Tape Selection) system which sets the appropriate equalization characteristics and bias current for each tape type, an additional calibration adjustment can often produce even better results. Use the bias current and recording level calibration function to obtain the optimum recording conditions for your tape.

Fig. **A** shows the BIAS control and REC (recording) LEVEL control for calibration.

Bias calibration

Choosing the optimum bias current for a tape ensures minimum distortion and flat frequency response. Lowering the bias current boosts high-frequency response, but also results in higher distortion. Raising the bias, on the other hand, reduces distortion, but also dampens high-frequency response. Optimum bias is thus obtained when the bias current and high-frequency response are well balanced.

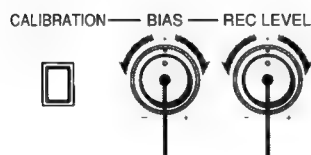
Fig. **B** shows the BIAS control and a high-frequency response balance chart.

- If the bias current is higher or lower than the optimum setting for a certain tape, the frequency response changes as shown in the Chart in Fig. **B**. Changing the bias can thus be used to tailor the response to your liking, for example by slightly emphasizing the upper or lower end.
- The frequency response of metal tapes is much less affected by changes in the bias current than other tape types, and in some cases is unaffected. With some tapes, the adjustment range of this deck (a range of about $\pm 20\%$) may therefore not be sufficient to cover every possible requirement.

Recording level calibration

Even when the recording level is adjusted correctly, using a tape with low sensitivity will result in a low playback level. The REC LEVEL calibration control allows you to compensate for sensitivity differences among tapes to equalize both recording and playback levels. This is especially important when using the Dolby NR system, since it is most effective when recording and playback levels are the same.

A



Adjusts the bias current within a range of about $\pm 20\%$

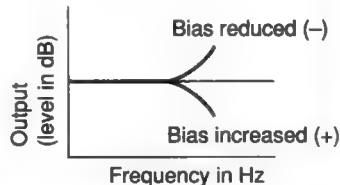
Adjusts the recording level within a range of about ± 3 dB

B

Bias reduced (high-frequency response boosted)



Bias increased (high-frequency response suppressed)



Making an Optimum Recording

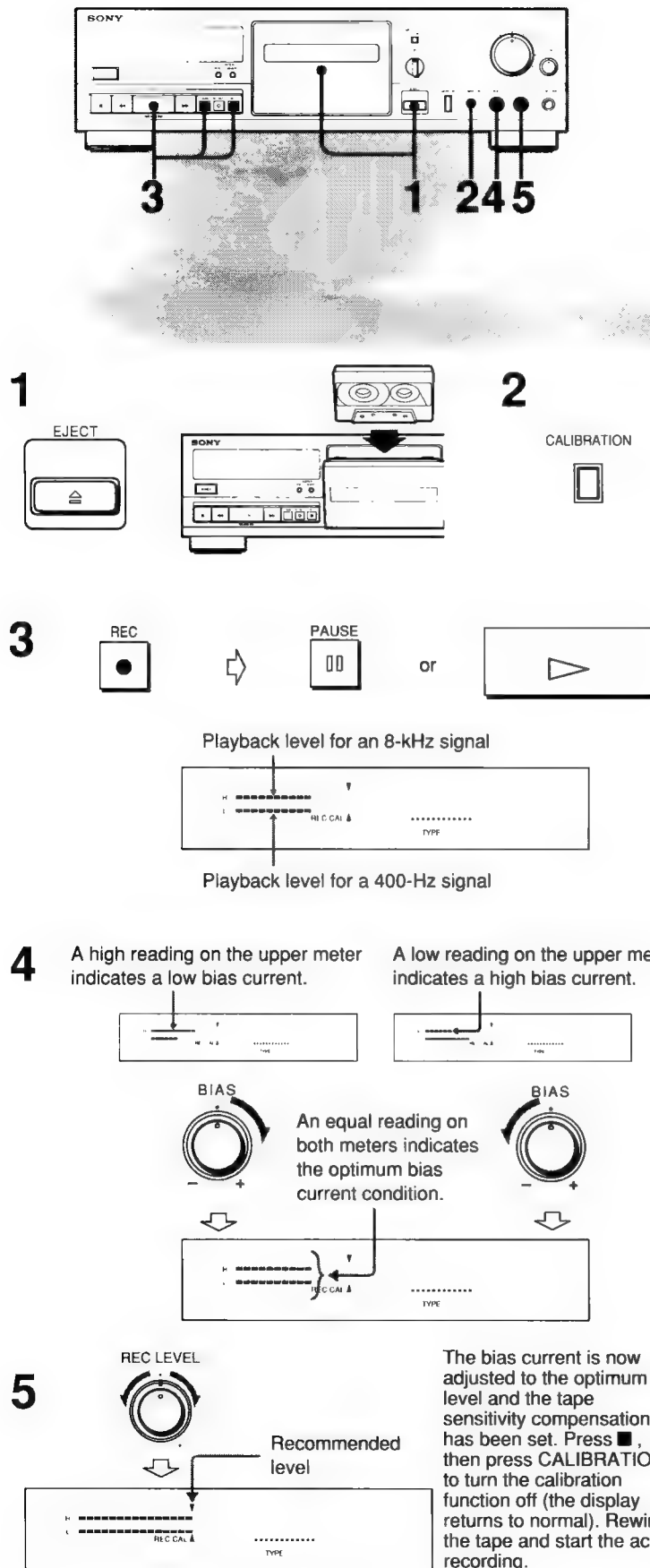
How to calibrate the Bias Current and Recording Level

- 1 Insert a cassette with the side to be recorded facing out-ward.
- 2 Press CALIBRATION.
The peak level meter for adjusting the bias and recording level appears in the display window.
- 3 Press ●, then II or ► to activate the recording test tone.

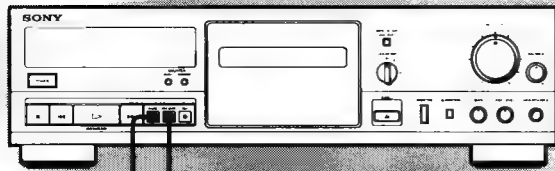
Notes

- The sound cannot be monitored during the calibration operation.
- It takes 2 to 3 seconds for the test tone level to stabilize.

- 4 Adjust BIAS until both meters indicate equal playback levels.
- 5 Adjust REC LEVEL calibration until both meters reach the recommended level.

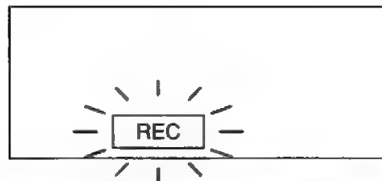


Inserting a Blank Space During Recording — Record Muting



21

1



2




The Record Muting function allows you to insert a four-second blank to enable proper Multi-AMS operation (see page 9), and to replace unwanted input with a blank of any desired length.

1 While recording, press  and release it immediately.




The REC indicator starts flashing.

During this time, no incoming signals are recorded on the tape.

After four seconds, the  indicator lights up and the unit enters recording pause mode.

2 Press  to resume recording.

To create a blank longer than four seconds

Press the  button for the desired length of time. After four seconds, the REC indicator flashes with greater rapidity. When you release the  button, the  indicator lights up and the unit goes into recording pause mode.

Press the  button to resume recording.


Maintenance

Cleaning the Heads and Tape Path

Clean all surfaces over which the tape travels after every ten hours of operation to guard against:

- low-quality sound
- a decrease in sound level
- excessive wow, flutter or drop-out
- incomplete erasure
- impairment of recording function

To obtain high-quality recorded sound, cleaning before every recording is recommended. (See Fig. **A**.)

- 1 Press  to open the cassette holder.**
- 2 With the unit turned off, wipe the heads, the pinch roller and the capstan with a cotton swab slightly moistened with alcohol or a commercially available cleaning fluid for tape decks.**

Do not insert a cassette until the cleaned areas are completely dry.

Demagnetizing the Heads

After 20 to 30 hours of use, or when you notice hiss and/or loss of high frequencies, the residual magnetism built up on the heads should be removed.

- 1 Turn off the power.**
- 2 Demagnetize the heads with any commercially available demagnetizer.**

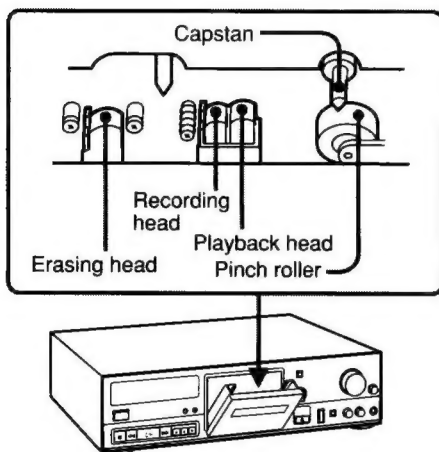
Refer to the instruction manual of the demagnetizer for detailed instructions.

Cleaning the Cabinet

Clean the cabinet, panel and controls with a soft cloth slightly moistened with a mild detergent solution.

Do not use any type of abrasive pad, scouring powder or solvents such as alcohol or benzene.

A



Specifications

Recording system 4-track 2-channel stereo
 Fast winding time Approx. 90 sec. (with Sony C-60 cassette)
 Bias AC bias
 Heads Erasing head × 1 (S&F head)
 Recording head × 1 (SD head)
 Playback head × 1 (SD head)
 Motors Capstan motor × 1 (DC servo motor)
 Reel motor × 1 (DC motor)

Signal-to-noise ratio (at peak level and weighted)

Cassette (Dolby NR off)	Type IV	Type II	Type I
	60 dB	59 dB	57 dB

S/N ratio improvement (approximate values)

With Dolby B NR on: 5 dB at 1 kHz; 10 dB at 5 kHz

With Dolby C NR on: 15 dB at 500 Hz; 20 dB at 1 kHz

With Dolby S NR on: 10 dB at 100 Hz; 24 dB at 1 kHz

(TC-K511S only)

Harmonic distortion 0.4% (with Type I, 160 nWb/m
 315 Hz, 3rd H.D.)
 1.5% (with Type IV, 250 nWb/m
 315 Hz, 3rd H.D.)

Frequency response (DOLBY NR off)

Type IV cassette	30 - 19,000 Hz (±3 dB, IEC) 30 - 16,000 Hz [±3 dB (-4dB recording)]
Type II cassette	30 - 18,000 Hz (±3 dB, IEC)
Type I cassette	30 - 17,000 Hz (±3 dB, IEC)

Type IV : Sony METAL-S

Type II : Sony UX-S

Type I : Sony HF-S

Wow and flutter ± 0.13% W.Peak (IEC)
 0.07% W.RMS (NAB)
 ± 0.18% W.Peak (DIN)

Inputs

Line inputs (phono jacks)	Sensitivity	0.16 V
	Input impedance	47 k ohms

Outputs

Line outputs (phono jacks)	Rated output level	0.5 V at a load impedance of 47 k ohms
	Load impedance	Over 10 k ohms
Headphones (stereo phone jack)	Output level	1 mW at a load impedance of 32 ohms

General

Power requirements 240 V AC, 50 Hz

Power consumption 23 W

Dimensions Approx. 430 × 123 × 310 mm (w/h/d)
 (17 × 4 7/8 × 12 1/4 inches)

including projecting parts and controls
 Mass Approx. 4 kg (8 lbs 14 oz)

Supplied accessories Audio connecting cords (2)

Optional accessory Wireless remote control unit RM-J701

Design and specifications are subject to change without notice.

Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

Troubleshooting Guide

The following trouble checks will help you correct the most common problems encountered with your tape deck. Should any problems persist after you have made these checks, consult your nearest Sony dealer.

Before proceeding with these trouble checks, verify that:

- The power cord is firmly connected.
- Amplifier connection are firmly made.
- Heads, capstan and pinch roller are clean.
- The amplifier controls and switches are set correctly.

Function Buttons and Tape Transport Problems






Symptom	Cause	Remedy
The function buttons do not activate.	The cassette holder is not fully closed.	Close the holder completely.
	The cassette is not properly inserted.	Insert cassette correctly.
	Button was pressed immediately after the power was turned on.	Wait until the II indicator stops flashing.
The ● button does not activate.	There is no cassette in the holder.	Insert a cassette.
	A tab has been removed from the cassette.	Cover the slot with tape (page 14).
Automatic shut-off mechanism activates before the tape comes to its end.	The tape is slack.	Take up the tape slack.
	The cassette shell is deformed.	Use another cassette.
	The Memory Play function is activated.	Press the MEMORY button to deactivate the function.
Excessively loud tape transport noise during fast winding.	This noise is caused by the cassette and does not signify a mechanical problem.	—

(Continued on next page.)

Troubleshooting Guide

(Continued from previous page.)

Recording and Playback Problems

Symptom	Cause	Remedy
Recording or playback cannot be made or there is a decrease in sound level.	The heads are either dirty or magnetized.	Clean or demagnetize the heads (page 21).
	Improper connection.	Make connections properly (page 5).
	Improper setting of the amplifier controls.	Set the amplifier controls to the appropriate positions.
Excessive wow, flutter or drop-out.	The head, capstan or pinch roller is dirty.	Clean in accordance with instructions on page 21.
Incomplete erasure.	The erasing head is dirty.	Clean the erasing head (page 21).
Increased noise or poor reproduction in high frequencies.	The heads are magnetized.	Demagnetize the heads (page 21).
Unbalanced tone in high frequencies.	Improper setting of the DOLBY NR switch.	During playing back, set the switch to the same position used in recording.
	The unit is placed near a television set.	Move the unit away from the television set.
The desired selection cannot be located even though you activate the Multi-AMS.	There is noise in the space between selections. The space is less than four seconds long.	Rerecord the tape if you can, and insert a blank space of four seconds using the  button (page 20).
	The  (or ) button was pressed immediately before the beginning of the following selection.	—
Playback begins in the middle of the selection when the Multi-AMS is activated.	The selection contains one of the following: — a long pause in the music — a passage of low frequencies or very low volume — a gradual increase or decrease in volume.	While the tape is playing, press the  or  button again.

Noise

Symptom	Cause	Remedy
Hum noise.	The unit is stacked on or under the amplifier.	Separate the unit.
Noise is recorded.	The recording was made near equipment such as a television set or a color monitor, and interference has affected the recording on the tape and the Dolby NR system.	Move the unit away from the television set or color monitor.